September 17, 1997

to:

Samantha Fairchild (3DA-10)
Director, Enforcement Coordination Office
USEPA Region III

from:

Gary Bryant (3ES31) GB
Deputy Branch Chief, Environmental Programs Branch
USEPA, Wheeling Office

subject:

Draft Parts of Multimedia Inspection Report
Ashland Chemical, Neal Plant, Neal, WV

Enclosed are draft portions of the multimedia inspection report for the Ashland Chemical Plant @ Neal, WV. These drafts cover a portion of the effort to evaluate RCRA compliance and the entire section covering NPDES. Betty Barnes served as team leader for this inspection. Before the inspection, we discussed how the effort was to procede. It was agreed that Jim Bailey would fill out a RCRA inspection checklist & draft some narrative on the RCRA aspects. Jim has completed this draft & it is attached. I agreed to lead the NPDES portion of the inspection & draft a report for that effort. That draft is attached.

We were shooting for a completion date for these drafts of October 20. Our chemistry lab made an extra effort to get the data to us in short order enabling us to get these drafts to you on time.

I would like EPA to send a copy of this NPDES draft to Charlie Moses of the WVDEP, who worked with us in this inspection. They collected additional samples during the multimedia inspection & I believe we can get a copy of that data. More importantly, they have a groundwater protection program investigation underway at this facility, and were scheduled to sample the existing wells this week.

We look foreward to working with you & Betty to resolve any questions or comments.

U.S. ENVIRONMENTAL PROTECTION AGENCY - Region III
AIR ENFORCEMENT BRANCH

Air Compliance Inspection Report

Report Prepared by: W.Wilkie (3AT12)
D.Lucero (3AT12)

I. General Information

Company Name: Ashland Chemical Company ("Ashland")

Address: Neal Maleic Anhydride Plant

(City): Neal County: # Wayne State: WV

Ownership: Private AFS#: 5409900022

Date of Inspection: September 15-16, 1997
Arrival Time: 2:00 P.M. (9/15/97)
Departure Time: 12:00 P.M. (9/17/97)

EPA Inspectors: Walter K. Wilkie, Env. Engr; Daniel Lucero, Env. Engr.;

State Inspector: Robert L. Keatley, West Virginia Department of Environmental Quality ("WVDEQ")

Company Personnel: Harold N. Hicks, Plant Manager, Ashland Neal Maleic Plant: Tara L. Lanier, Sr. Staff Engr., Env., Health, And Safety, Ashland; Becky W. Anderson, Staff Engr., Env., Health, and Safety, Ashland; William L. Barnhill, Operations Superintendent, Ashland Neal Maleic Plant; Scott Hanks, Technical Superintendent, Ashland Neal Maleic Plant; Steve Lochow, Process Engineer, Ashland Neal Maleic Plant.

Purpose of Inspection: To determine Ashland's compliance with the leak detection and repair ("LDAR") requirements of 40 C.F.R. Part 60, Subpart VV - NSPS for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry and the Stratospheric Ozone Protection ("CFC") requirements of 40 C.F.R. Part 82, Subpart F. This inspection was conducted in conjunction EPA Region III's multi-media compliance inspection of Ashland's Neal Maleic Anhydride plant.

II. Description of Facility

Ashland Chemical Company is a division of Ashland Incorporated, which is based in Columbus, OH. Ashland's Neal, WV maleic anhydride facility has been in operation since 1976. The facility operates 7 days per week, 24 hrs per day, and employs approximately 50 people. Maleic Anhydride is manufactured by the air oxidation of butane in four continuous flow catalytic reactors (in 1981 Ashland substituted butane for benzene as a feedstock for its maleic anhydride process). Butane is received via railcar from various locations. Off-gases (VOC and CO) from the maleic anhydride process are controlled by an incinerator. Finished maleic anhydride is shipped from the facility via railcar or tank truck.

III. Regulatory Background Information

The following regulatory LDAR requirements apply to Ashland's Neal, WV maleic anhydride plant:

NSPS - The applicable NSPS standard governing fugitive VOC emissions from petroleum refineries is found at 40 C.F.R. Part 60, Subpart GGG - NSPS for Equipment Leaks of VOC in Petroleum Refineries. This standard, which governs facilities at a petroleum refinery constructed or modified after January 4, 1983, requires affected facilities to comply with the monitoring requirements of §§ 60.482-1 to 60.482.10 of 40 C.F.R. Part 60, Subpart VV - NSPS for Equipment Leaks of VOC from Synthetic Organic Chemical Manufacturing Industry. The requirements of Subpart GGG apply specifically to Ashland's butane storage area, maleic anhydride production areas, and refinery fuel gas area.

The following regulatory CFC requirements apply to Ashland's Neal, WV maleic anhydride plant:

National Emissions Reduction Program (§ 608) - The applicable 608 standard governing all refrigerated equipment and appliances in all but automotive refrigeration is found at 40 C.F.R. Part 82, Subpart F. Subpart F requires that owners of industrial process refrigeration equipment with refrigerant charges of 50 pounds or more repair refrigerant leaks within 30 days if the appliance is leaking 35% of the charge within a 12 month period.

IV. Description of Inspection

On September 15 through 18, 1997, EPA Region III and WVDEQ conducted an investigation of Ashland's compliance with the NSPS leak detection and repair requirements of 40 C.F.R. Part 60, Subpart VV and the industrial process refrigeration requirements of 40 C.F.R. Part 82, Subpart F. This investigation was conducted in conjunction with the Region's multi-media inspection activities at Ashland's Neal, WV facility.

The inspection relative to Ashland's LDAR program consisted of interviews with Ashland personnel, a review of Ashland's LDAR repair log and calibration records, a walk through of the process units, and monitoring of VOC components. The Ashland LDAR program is contracted to TEAM, Inc. of Houston, Texas. Team is responsible for the identification of VOC components, monitoring of components, and recording monitoring results. TEAM monitors approximately 1,289 components in VOC service using Century System Organic Vapor Analyzers (OVA), Model OVA-108. In April 1997, Ashland eliminated numerous components from its LDAR program after determining that the Neal plant was no longer a major source under the Hazardous Organic NESHAP (40 C.F.R. Part 63, Subparts F, G, H, and I). However, these components are visually inspected and rountinely monitored as a part TEAM's monthly monitoring activities.

Identification tags (displaying the component number) have been attached to all VOC pumps and valves. A computer log is maintained which lists all monitored components(including connectors and flanges) by process area. Follow-up repairs and minimizations from leaking components are initiated from monitoring results. Leaking components are normally repaired upon detection and remonitored within the same day, unless the component cannot be repaired without a process unit shutdown.

As a part of its audit of Ashland's VOC LDAR program, EPA and WVDEQ monitored approximately (356) components in VOC service, including those components elminated from Ashland's LDRA program. As a result of the audit, EPA identified (3) leaking valves (10,000 ppm leak definition as described in 40 C.F.R. Part 60, Subpart VV). These components were immediately repaired by Ashland personnel, and monitored again by TEAM to verify that the component was no longer leaking. Connectors and flanges were also monitored, and none were found to be leaking. EPA and WVDEQ inspectors also identified (9) missing plugs from open-ended lines; (6) were located in the area of Ashland's TMP North

Reactor. None of the open-ended lines were leaking, and upon notifying Ashland personnel, all lines were immediately sealed.

The inspection related to Ashland's industrial process refirgeration equipment consisted of completion of the Level I and II Inspection Checklists (National Recycling and Emission Reduction Program) and the Region III Inspection Checklist (Industrial Process Refirgeration CAA §608), all attached, interviews with Ashland personnel and a walk through of the process units. Ashland does not have any refrigeration equipment with refrigerant charges of 50 pounds or more. No Ashland personnel service, maintain or repair refrigeration equipment. Ashland uses Commercial Refrigeration located in Huntington, WV as its sole service contractor. Several recent months of contractor invoices were requested, received and reviewed.

Upon completing the field portion of the audit, the results of the audit were briefly summarized during a close-out meeting with Harold Hicks and Tara Lanier of Ashland. In that Mr. Hicks nor Ms. Lanier had any further questions regarding the audit, we concluded our inspection, and departed the facility.

cc: Dan Lucero (3AT12)

Division of Environmental Protection
Office of Air Quality

INSPECTION FACT SHEET

COMPANY NAME:	Ashland Chemical Company
EPA ID #:	WV080645831
PLANT ID #:	03-54-099-0009
PERMIT #:	n/a
MAILING ADDRESS:	Neal Plant P. O. Box 391 Ashland, KY 41114
FACILITY TYPE:	Large quantity generator, <90 day storage
LOCATION:	Neal
COUNTY:	Wayne
REGION:	3
COMPANY CONTACT:	Scott Hanks
PHONE:	(606) 921-6735
PURPOSE:	Applicability/compliance evaluation
APPLICABLE REGS:	45CSR25
DATE INSPECTED:	July 3, 1997
INSPECTORS:	J. D. McClung
DATE PREPARED:	July 23, 1997
PREPARED BY:	J. D. McClung
REVIEWED BY:	L. S. Pontiveros
FACILITY STATUS CODE:	30
VIOLATIONS:	None

INSPECTION MEMORANDUM

DIVISION OF ENVIRONMENTAL PROTECTION

West Virginia Office of Air Quality

Company:	Ashland Chemical Company			Facility:	Neal Plant
Region:	3	Plant ID#:	03-54-099-0009	Regulations:	45CSR25

Inspected By: Jonathan D. McClung Title: Engineer-in-Training I

Memo Date: July 23, 1997 Inspection Date: July 3, 1997

On July 3, 1997, at approximately 9:45 a.m., the writer conducted an unannounced inspection of the Ashland Chemical Company ("Ashland") located near Neal, WV. The contact person at the facility was Scott Hanks, Technical Supervisor. The inspection consisted of an opening conference and an inspection of the operations at the facility. The weather was sunny with light breezes and temperatures in the upper 70's (°F). The inspection lasted approximately 1.5 hours.

West Virginia Regulation 45CSR25 incorporates by reference, among other things, 40 CFR 265 subparts AA, BB, and CC. The purpose of these subparts is to prevent and control organic air emissions of hazardous waste from process vents, process equipment, and tanks, containers, and surface impoundments, respectively. The purpose of the inspection was to evaluate the applicability and compliance of Ashland with respect to these subparts.

Ashland Chemical's Neal Plant produces maleic anhydride on a semi-continuous basis. During the production of maleic anhydride certain undesirable by-products are produced and remain in the reaction equipment. It is necessary to cease operation on a regular basis to clean out the process equipment. This clean out waste is a characteristic hazardous waste as a result of corrosivity (pH< 2). The volume of waste generated during the clean-outs classifies the Neal Plant as a large quantity generator. The hazardous waste clean-out is neutralized with a caustic solution on site in open-top tanks. The neutralized mixture is shipped off-site for additional treatment and then ultimately to a POTW. The Neal Plant also generates relatively small quantities of hazardous waste from other sources such as laboratory waste and contaminated process equipment.

The tank system for neutralization of the clean-out waste meets the definition of elementary neutralization unit in 40 CFR 260.10. Pursuant to 40 CFR 265.1(c)(10), an elementary neutralization unit is not subject to the requirements of part 265. Thus, the neutralization process is not subject to subparts AA, BB, or CC.

Photographs Taken:	No	ITS Updated:	Yes
Visual Emissions Taken:	No	Facility Status Code:	30

NON-CONFIDENTIAL

Subpart AA

Subpart AA applies to process vents for hazardous waste equipment associated with distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations. Ashland does not have process vents in hazardous waste service at this facility and is not subject to Subpart AA.

Subpart BB

Subpart BB applies to equipment that contains or contacts hazardous waste with organic concentrations of at least 10 percent by weight. Equipment includes valves, pumps, flanges, and open-ended lines. Ashland does not operate equipment subject to Subpart BB.

Subpart CC

Subpart CC applies to certain tanks, containers, and surface impoundments managing hazardous waste. Ashland does not operate tanks or surface impoundments in hazardous waste service. The containers in hazardous waste service at the facility are subject to Subpart CC. Since no waste stabilization occurs in containers, compliance with Subpart CC can be achieved by utilizing DOT approved containers. Ashland uses DOT approved containers for less than ninety day storage of hazardous waste and is in compliance with Subpart CC.

Jonathan D. McClung
Engineer-in-Training I

July 23, 1997
July 23, 1997

Quality Environmental Services

REI Consultants Inc.

Research, Environmental & Industrial Consultants, Inc.

P. O. Box 286 • Beaver, West Virginia 25813 • 1-304-255-25(
1-800-999-01(
FAX 1-304-255-25

August 7, 1997

Mr. Henry Haas
West Virginia Division of
Environmental Protection
1356 Hansford Street
Charleston WV 25311

RE: REIC Job #: 0797-53496

Dear Mr. Haas:

Please find enclosed your analysis report for the sample submitted to our laboratory on July 25, 1997. Please note that the sample is identified as follows:

Site ID: RR Loading Area - Far Side

Please do not hesitate to call if you have any questions.

Thank you.

Sincerely,

Claude Scott
Vice President
REI Consultants, Inc.

enclosure
CS/rc

cc: Penny Brown, WVDEP

WEST VIRGINIA DIVISION
OF ENVIRONMENTAL PROTECTION
1356 HANSFORD STREET
CHARLESTON WV 25311

REIC JOB #: 0797-53496
SITE ID: RR LOADING AREA-FAR

Prepared By:
REIC LABORATORY
P O Box 286
Beaver WV 25813

Job #: 0797-53496

WV DEP SAMPLE #:	**RR LOADING AREA**	**DATE SAMPLED:**	**07-24-97**
REIC SAMPLE #:	**53496-1**	**MATRIX:**	**SOLID**
		MOISTURE:	**16 %**

SEMIVOLATILE ORGANIC COMPOUND

PARAMETER	RESULT	UNIT	METHOD	MQL	ANALYZED/BY
Maleic anhydride	ND	mg/kg	8270	1.50	07-31-97/WP

Surrogates	% Recovery
nitrobenzene-d5	41
2-fluorobiphenyl	65
p-terphenyl-d14	104

SEMIVOLATILE ORGANIC GC-MS SCAN

COMPOUNDS IDENTIFIED	ESTIMATED LEVEL	PROBABILITY OF MS FIT
Propanoic acid	25.0	91
2,3-Butanediol	10.0	80
Propane, 2-ethoxy-	2.00	59
Butanoic acid	50.0	91
Pentanoic acid	5.00	72
Pentanoic acid, 2-methyl-	2.00	72
Hexanoic acid	2.00	72
Phenanthrene	1.50	96
Fluoranthene	5.00	87
Pyrene	3.50	87
Benzo(a)anthracene	1.00	96
Chrysene	1.50	93
Benzo(b)fluoranthene	1.00	94

ND - None Detected at MQL
MQL - Minimum Quantifying Level

Job #: 0797-53496

WV DEP SAMPLE #:	**RR LOADING AREA**	**DATE SAMPLED:**	**07-24-97**
REIC SAMPLE #:	**53496-1**	**MATRIX:**	**SOLID**

GENERAL CHEMISTRY

PARAMETER	RESULT	UNIT	METHOD	MQL	ANALYZED/BY
pH	6.23	SU	9045 C	NA	07-28-97/KM

NA - Not Applicable
SU - Standard Units
MQL - Minimum Quantifying Level

DATE 8-8-97 APPROVED J M Satterfield for Ray Erickson

Ivan W Leef
Ivan W. Leef

WEST VIRGINIA DIVISION OF ENVIRONMENTAL PROTECTION
Chain of Custody Record

Project No.: SR950724C
Project Name or Code: ASHLAND
Samplers: (Signature) Henry E. Haas

Fax Results to Penny Brown 304-256-6755

Station No.	Date 1997	Time	Comp.	Grab	Station Location	No. of Containers	*maleic anhydride	maleic acid	soil pH	Remarks
01	7/24	11:50		X	RR Loading area - Far side	1	X	X	X	→ Analyze for maleic anhydride and all breakdown constituents
										Any Questions call Penny Brown 256-6850 or Henry Haas 558-5989

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Henry E. Haas	7/24/97 5:30pm	P L Brown			
P L Brown	7/25/97 0730	A Lej	7-25-97 1135 AM	Remarks: Room Temp.	

White - Shipment Canary - Laboratory Pink - Sampler's Copy

Rev. 3/93

Attachment 1 Page 5

ASHLAND CHEMICAL
NEAL PLANT
JUNE 1997 WASTE SHIPMENTS

DATE SHIPPED	B/L	POUNDS	CARRIER	FACILITY
5/29/97	014562-6070	45,800	MANFREDI	ALLWASTE
5/29/97	014562-6071	47,600	MANFREDI	ALLWASTE
5/29/97	014562-6072	46,520	MANFREDI	ALLWASTE
5/30/97	014562-6073	42,620	MANFREDI	ALLWASTE
5/30/97	014562-6074	42,840	MANFREDI	ALLWASTE
5/30/97	014562-6075	40,820	MANFREDI	ALLWASTE
5/31/97	014562-0223	31,740	MANFREDI	WASTE MGNT.
6/5/97	014562-6076	41,220	MANFREDI	ALLWASTE
6/5/97	014562-6077	39,640	MANFREDI	ALLWASTE
6/5/97	014562-6078	44,360	MANFREDI	ALLWASTE
6/5/97	014562-6079	40,880	MANFREDI	ALLWASTE
6/5/97	014562-6080	39,620	MANFREDI	ALLWASTE
6/10/97	014562-3298	29,040	MANFREDI	CLEAN HARBORS
6/12/97	014562-6081	46,140	MANFREDI	ALLWASTE
6/12/97	014562-6082	48,560	MANFREDI	ALLWASTE
6/12/97	014562-6083	48,500	MANFREDI	ALLWASTE
6/13/97	014562-6084	38,200	MANFREDI	ALLWASTE
6/13/97	014562-6085	40,800	MANFREDI	ALLWASTE
6/14/97	014562-6086	41,640	MANFREDI	ALLWASTE
6/16/97	014562-3299	39,520	MANFREDI	CLEAN HARBORS
6/20/97	014562-6087	43,380	MANFREDI	ALLWASTE
6/20/97	014562-6088	44,680	MANFREDI	ALLWASTE
6/20/97	014562-6089	43,780	MANFREDI	ALLWASTE
6/20/97	014562-6090	45,800	MANFREDI	ALLWASTE
6/20/97	014562-6091	45,520	MANFREDI	ALLWASTE
6/20/97	014562-6092	45,260	MANFREDI	ALLWASTE
6/23/97	014562-6093	47,600	MANFREDI	ALLWASTE
6/27/97	014562-6094	43,220	MANFREDI	ALLWASTE
6/27/97	014562-6095	42,560	MANFREDI	ALLWASTE
6/27/97	014562-6096	34,560	MANFREDI	ALLWASTE
6/29/97	014562-3300	44,260	MANFREDI	CLEAN HARBORS
6/30/97	014562-6097	44,020	MANFREDI	ALLWASTE

Facility	No. of Loads	Pounds Shipped
All Waste	28	1,216,140
Clean Harbors	3	112,820
Waste Mgnt.	1	31,740
Total	**32 LOADS =**	**1,360,700**

Attachment 2 Page 1

ASHLAND CHEMICAL
NEAL PLANT
JULY 1997 WASTE SHIPMENTS
Revised

DATE SHIPPED	B/L	POUNDS	CARRIER	FACILITY
7/2/97	014562-6098	33,600	MANFREDI	ALLWASTE
7/2/97	014562-6099	41,740	MANFREDI	ALLWASTE
7/4/97	014562-0224	39,200	MANFREDI	WASTE MGNT.
7/4/97	014562-0225	42,080	MANFREDI	WASTE MGNT.
7/4/97	014562-0226	41,740	MANFREDI	WASTE MGNT.
7/6/97	014562-6100	41,340	MANFREDI	ALLWASTE
7/7/97	014562-6101	43,280	MANFREDI	ALLWASTE
7/7/97	014562-6102	44,460	MANFREDI	ALLWASTE
7/9/97	014562-6103	40,260	MANFREDI	ALLWASTE
7/9/97	014562-6104	43,780	MANFREDI	ALLWASTE
7/12/97	014562-0227	42,620	MANFREDI	WASTE MGNT.
7/12/97	014562-0228	45,680	MANFREDI	WASTE MGNT.
7/12/97	014562-0229	45,460	MANFREDI	WASTE MGNT.
7/12/97	014562-6105	43,460	MANFREDI	ALLWASTE
7/12/97	014562-6106	44,180	MANFREDI	ALLWASTE
7/12/97	014562-6107	44,080	MANFREDI	ALLWASTE
7/11/97	014562-6108	40,340	MANFREDI	ALLWASTE
7/15/97	014562-6109	43,080	MANFREDI	ALLWASTE
7/15/97	014562-6110	44,500 #3,189.80	MANFREDI	ALLWASTE
7/15/97	014562-6111	45,440	MANFREDI	ALLWASTE
7/19/97	014562-6112	44,040	MANFREDI	ALLWASTE
7/19/97	014562-6113 *	44,860	MANFREDI	ALLWASTE
7/19/97	014562-6114	44,140	MANFREDI	ALLWASTE
7/21/97	014562-6115 *	46,040	MANFREDI	ALLWASTE
7/21/97	014562-6116 *	46,760	MANFREDI	ALLWASTE
7/21/97	014562-6117 *	45,080	MANFREDI	ALLWASTE
7/23/97	014562-6118 *	46,680	MANFREDI	ALLWASTE
7/25/97	014562-0230	45,340 900	MANFREDI	WASTE MGNT.
7/26/97	014562-6119 *	46,120	MANFREDI	ALLWASTE
7/26/97	014562-6120 *	45,520	MANFREDI	ALLWASTE
7/26/97	014562-6121 *	44,400	MANFREDI	ALLWASTE
7/26/97	014562-6122 *	44,000	MANFREDI	ALLWASTE
7/26/97	014562-6123 *	44,720	MANFREDI	ALLWASTE
7/26/97	014562-6124 *	44,940	MANFREDI	ALLWASTE
7/28/97	014562-6125 *	43,000	MANFREDI	ALLWASTE
7/28/97	014562-6126 *	44,540	MANFREDI	ALLWASTE
7/28/97	014562-6127 *	44,360	MANFREDI	ALLWASTE
7/31/97	014562-6128 *	43,860	MANFREDI	ALLWASTE

Facility	No. of Loads	Pounds Shipped
All Waste	31	1,356,600
Clean Harbors	0	0
Waste Mgnt.	7	302,120
Total	**38 LOADS =**	**1,658,720**

* #16,184.20

Attachment 2 Page 2

ASHLAND CHEMICAL
NEAL PLANT
AUGUST 1997 WASTE SHIPMENTS

DATE SHIPPED	B/L	POUNDS	CARRIER	FACILITY
8/2/97	014562-6129	42,620	MANFREDI	ALLWASTE
8/2/97	014562-6130	42,880	MANFREDI	ALLWASTE
8/2/97	014562-6131	42,800	MANFREDI	ALLWASTE
8/4/97	014562-3301	44,760	MANFREDI	CLEAN HARBORS
8/5/97	014562-3302	44,840	MANFREDI	CLEAN HARBORS
8/5/97	014562-0231	44,680	MANFREDI	WASTE MGNT.
8/10/97	014562-6132	45,460	MANFREDI	ALLWASTE
8/10/97	014562-6133	45,040	MANFREDI	ALLWASTE
8/10/97	014562-6134	45,320	MANFREDI	ALLWASTE
8/10/97	014562-6135	45,500	MANFREDI	ALLWASTE
8/10/97	014562-6136	45,320	MANFREDI	ALLWASTE
8/10/97	014562-6137	45,340	MANFREDI	ALLWASTE
8/15/97	014562-0232	45,660	MANFREDI	WASTE MGNT.
8/17/97	014562-6138	46,000	MANFREDI	ALLWASTE
8/17/97	014562-6139	44,280	MANFREDI	ALLWASTE
8/17/97	014562-6140	45,300	MANFREDI	ALLWASTE
8/19/97	014562-6141	42,240	MANFREDI	ALLWASTE
8/19/97	014562-6142	48,920	MANFREDI	ALLWASTE
8/19/97	014562-6143	46,540	MANFREDI	ALLWASTE
8/21/97	014562-3303	46,300	MANFREDI	CLEAN HARBORS
8/24/97	014562-6144	45,020	MANFREDI	ALLWASTE
8/24/97	014562-6145	45,100	MANFREDI	ALLWASTE
8/24/97	014562-6146	45,240	MANFREDI	ALLWASTE
8/24/97	014562-6147	46,940	MANFREDI	ALLWASTE
8/24/97	014562-6148	44,480	MANFREDI	ALLWASTE
8/24/97	014562-6149	47,500	MANFREDI	ALLWASTE
8/26/97	014562-0233	44,880	MANFREDI	WASTE MGNT.

Facility	No. of Loads	Pounds Shipped
All Waste	21	947,840
Clean Harbors	3	135,900
Waste Mgnt.	3	135,220
Total	**27 LOADS =**	**1,218,960**

Attachment 2 Page 3

ASHLAND CHEMICAL
NEAL PLANT
SEPTEMBER 1997 WASTE SHIPMENTS

DATE SHIPPED	B/L	POUNDS	CARRIER	FACILITY
9/2/97	014562-6150	42,500	MANFREDI	ALLWASTE
9/2/97	014562-6151	46,180	MANFREDI	ALLWASTE
9/2/97	014562-6152	46,380	MANFREDI	ALLWASTE
9/4/97	014562-6153	45,280	MANFREDI	ALLWASTE
9/4/97	014562-6154	44,860	MANFREDI	ALLWASTE
9/4/97	014562-6155	44,940	MANFREDI	ALLWASTE
9/8/97	014562-3304	47,260	MANFREDI	CLEAN HARBORS
9/11/97	014562-3305	44,580	MANFREDI	CLEAN HARBORS
9/11/97	014562-3306	46,100	MANFREDI	CLEAN HARBORS
9/11/97	014562-3307	46,340	MANFREDI	CLEAN HARBORS
9/12/97	014562-3308	46,440	MANFREDI	CLEAN HARBORS
9/12/97	014562-3309	45,060	MANFREDI	CLEAN HARBORS
9/12/97	014562-3310	39,480	MANFREDI	CLEAN HARBORS
9/12/97	014562-6156	44,420	MANFREDI	ALLWASTE
9/13/97	014562-6157	43,260	MANFREDI	ALLWASTE

Facility	No. of Loads	Pounds Shipped
All Waste	8	357,820
Clean Harbors	7	315,260
Waste Mgnt.	0	0
Total	**15 LOADS =**	**673,080**

Attachment 2 Page 4

Ashland Chemical Company Big Sandy River Road Neal, WV @5530	Allwaste Recovery Systems 1291 West Mound STreet Columbus, OH 43223	SHIP DATE 05/29/97 BILL OF LADING NUMBER

CARRIER / ROUTE Manfredi	SCAC	C. O. D. SHIPMENT C. O. D. Amount Collection Fee Total Charges	CUSTOMER P.O. NO. 014562-6070 This shipment is delivered t signee without recourse on the The carrier shall not make deli shipment without payment of all other lawful charges.
SUBJECT TO CONTRACT NO.	SHIPMENT MODE Tanktruck	SHIPPING CHARGES ARE TO BE: Prepaid	

Every spill, release or incident involving Ashland Chemical Company products MUST be reported to CHEMTREC, day or night, at 800-4

TYPE/NO. PACKAGES	HM	DESCRIPTION OF ARTICLES	SHIPPER'S WEIGHT (Sub. to Correction)	PROD COI
1 TT		NON-RCRA REGULATED LIQUID WASTE MATERIAL SAFETY DATA SHEET ATTACHED TANK-16679 TRUCK-1327 DELIVER 5/29/97 @ 8 a.m. LAB REL CJ PH 3.8	27500 31720 45800	

SPECIAL INSTRUCTIONS

TOTAL SHIPPING WEIGHT ►

CARRIER APPROVES LOAD SECUREMENT BL

CARRIER OFFERED REQUIRED PLACARDS B

EMERGENCY RESPONSE INFORMATION PRESENT,

AGENT / PER: Manfredi/Randall

CARRIER NOTE: IF THIS SHIPMENT IS DELAYED ENRC FOR ANY REASON NOTIFY SHIPPER IMMEDIATELY

FREIGHT BILLS MUST SHOW BILL OF LADING NUMBER. MAIL ORIGINA FREIGHT BILL AND COPY OF B/L TO:

This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

SHIPPER / PER

Signed: Ginny Pope

Receiver states that product matches Receiver's order and is in good condition. For bulk deliveries, hose conections are proper and sufficient space is available for delivery.

RECEIVER / PER

Signed:

41411 (01/94)

ENVIRONMENTAL SERVICES COMPANIES

P.O. BOX 510, BOSTON, MA 02102
(617) 849-1800

Clean Harbors Env. Services
1501 Washington Street
P.O. Box 850327
Braintree, MA 02185-0327
(617) 849-1800

If you have any questions regarding this invoice, please con your customer service representative at the location listed a

SOLD TO
Percy Foxwell
Ashland Incorporated
PO Box 391 Neal Plant
Ashland, KY 41114

JOB SITE
Ashland Incorporated
Big Sandy River Road
Neal, WV 24817

CUSTOMER	JOB NO.	PURCHASE ORDER NO.	SALESMAN	TERMS	INVOICE DATE	INVOICE
ASH006	D466173	CLV1452-15395B	Legg	NET 15 DAYS	06/20/97	D497187

QUANTITY	ITEM I.D.	DESCRIPTION	PRICE	U/M		AM
		16-Jun-1997				
1.00	CLV1452	MALEIC ACID WASTE BOL3299 / 11A MIN LOAD	750.000	EA		

SUBTOTAL $
SALES TAX

INVOICE TOTAL $

* TERMS:
NET 15 DAYS FROM INVOICE DATE

Attachment 2 Page 6

CHI-INV

*** END OF INVOICE D49718706 ***

ASHLAND PETROLEUM COMPANY
RESEARCH AND DEVELOPMENT
ENVIRONMENTAL SUPPORT GROUP

WASTE CHARACTERIZATION DATA SHEET

SAMPLE DESCRIPTION: E92-0318 NEAL PLANT 1ST WASH WASTE STREAM
DATE SAMPLED: 02/13/92
DATE SUBMITTED: 02/14/92
SUBMITTED BY: KARA BLACHOWSKI

PARAMETER	RESULT	EPA METHOD	ANALYST	DA
pH, SU	3.77	SW846 9040	SSW	03/
CYANIDE REACTIVITY, mg/kg	<10	SW846 7.3.3.2 SW846 9010	SSW	02/
SULFIDE REACTIVITY, mg/kg	<4	SW846 7.3.4.2 SW846 9030	SSW	02/
CORROSIVITY, mm/year	2.94	SW846 1110	SSW	03/
IGNITABILITY, LIQUID (P.M. FLASH), F	*	SW846 1010		
IGNITABILITY, SOLID (CLEVELAND OPEN CUP, MOD.), F	N/A	ASTM D92-85		
PAINT FILTER TEST	N/A	SW846 9095		
TOXICITY CHARACTERISTIC LEACHING PROCEDURE:				
ZERO HEADSPACE EXTRACTION	**	SW846 1311		
METALS/SEMI-VOLATILES EXTRACTION	**	SW846 1311		
TCLP METALS, ppm (BIAS CORRECTED)				
ARSENIC	**	SW846 7061		
BARIUM	**	SW846 6010		
CADMIUM	**	SW846 6010		
CHROMIUM	**	SW846 6010		
LEAD	**	SW846 6010		
MERCURY	**	SW846 7470		
SELENIUM	**	SW846 7741		
SILVER	**	SW846 6010		

N/A - NOT APPLICABLE
* SAMPLE IS WATER MISCIBLE & EXTINGUISHES FLAME
** DATA PROVIDED BY KEMRON ENVIRONMENTAL SERVICES

ASHLAND PETROLEUM COMPANY
RESEARCH AND DEVELOPMENT
ENVIRONMENTAL SUPPORT GROUP

WASTE CHARACTERIZATION DATA SHEET

SAMPLE DESCRIPTION: E92-0319 NEAL PLANT 2ND WASH WASTE STREAM
DATE SAMPLED: 02/13/92
DATE SUBMITTED: 02/14/92
SUBMITTED BY: KARA BLACHOWSKI

PARAMETER	RESULT	EPA METHOD	ANALYST	D
pH, SU	3.77	SW846 9040	SSW	0
CYANIDE REACTIVITY, mg/kg	<10	SW846 7.3.3.2 SW846 9010	SSW	02
SULFIDE REACTIVITY, mg/kg	<4	SW846 7.3.4.2 SW846 9030	SSW	02
CORROSIVITY, mm/year	4.04	SW846 1110	SSW	03
IGNITABILITY, LIQUID (P.M. FLASH), F	*	SW846 1010		
IGNITABILITY, SOLID (CLEVELAND OPEN CUP, MOD.), F	N/A	ASTM D92-85		
PAINT FILTER TEST	N/A	SW846 9095		
TOXICITY CHARACTERISTIC LEACHING PROCEDURE:				
ZERO HEADSPACE EXTRACTION	**	SW846 1311		
METALS/SEMI-VOLATILES EXTRACTION	**	SW846 1311		
TCLP METALS, ppm (BIAS CORRECTED)				
ARSENIC	**	SW846 7061		
BARIUM	**	SW846 6010		
CADMIUM	**	SW846 6010		
CHROMIUM	**	SW846 6010		
LEAD	**	SW846 6010		
MERCURY	**	SW846 7470		
SELENIUM	**	SW846 7741		
SILVER	**	SW846 6010		

N/A - NOT APPLICABLE
* SAMPLE IS WATER MISCIBLE & EXTINGUISHES FLAME
** DATA PROVIDED BY KEMRON ENVIRONMENTAL SERVICES

Attachment 3 Page 2

KEMRON REPORT **Work Order # N2-02-256**

ceived: 02/19/92 03/10/92 14:27:49

REPORT TO: Ashland Petroleum
11631 U.S. Rt. 23
Catlettsburg, KY 41129

ATTEN: Jennifer Fyffe

CLIENT: ASHL_KY50349 SAMPLES: 2
OMPANY: Ashland Petroleum
CILITY: Catlettsburg, KY
Fax # (606) 327-8580

ORK ID: Neal Plant
TAKEN: Client
TRANS: UPS
TYPE:
P.O. #:
NVOICE: under separate cover

PREPARED BY: KEMRON ENVIRONMENTAL SERVICES
109 STARLITE PARK
MARIETTA, OHIO 45750

ATTEN:
PHONE: (614) 373-4071

David F. Bunyan
CERTIFIED BY

CONTACT: L_DOVELL

ANALYTICAL METHODS AND DOCUMENTATION ARE FOUND AT THE END OF THIS REPORT. ALL RESULTS ON SOILS/SLUDGES ARE REPORTED "AS RECEIVED" UNLESS OTHERWISE SPECIFIED.

SAMPLE IDENTIFICATION

E92-0318
E92-0319

TEST CODES and NAMES used on this workorder

TC_EX	TCLP Extraction - Regular
TC_FIL	TCLP Filtration
TC_MEQ	TCLP Metals
TC_SVQ	TCLP Semivolatiles
TC_VOQ	TCLP Volatile Compounds
TC_ZHE	TCLP Zero Headspace Extr.

Attachment 3 Page 3

KEMRON REPORT Work Order # N2-02-256
Received: 02/19/92
Results by Sample

SAMPLE ID E92-0318 FRACTION 01A TEST CODE TC_MEQ NAME TCLP Metals
Date & Time Collected 02/13/92 Category LIQ_SLUDG

TCLP EXTRACTION DATE: 02/25/92
UNITS: mg/L VERIFIED: CLC

EPA HW#	CAS#	COMPOUND NAME	SAMPLE RESULT	SPIKE REC. (%)	CORRECTED RESULT	REG LIMIT
D004	7440-38-2	Arsenic	<0.04	58	<0.07	5.0
D005	7440-39-3	Barium	<1	66	<2	100.0
D006	7440-43-9	Cadmium	<0.01	78	<0.01	1.0
D007	7440-47-3	Chromium	0.12	72	0.17	5.0
D008	7439-92-1	Lead	<0.2	72	<0.3	5.0
D009	7439-97-6	Mercury	<0.01	79	<0.01	0.2
D010	7782-49-2	Selenium	<0.04	73	<0.05	1.0
D011	7440-22-4	Silver	<0.04	67	<0.06	5.0

NOTES AND DEFINITIONS FOR THIS SAMPLE

Attachment 3 Page 4

Received: 02/19/92
Results by Sample

SAMPLE ID E92-0318 FRACTION 01A TEST CODE TC_SVQ NAME TCLP Semivolatiles
Date & Time Collected 02/13/92 Category LIQ_SLUDG

ANALYST: EDG EXTRACTED: 03/02/92 FILE #: 1AS18256 TCLP EXTRACTION DATE: 02/25/92
INSTRMT: FINN1 INJECTED: 03/03/92 FACTOR: 8 UNITS: ug/L VERIFIED: RJW

EPA HW#	CAS#	COMPOUND NAME	SAMPLE RESULT	SPIKE REC.(%)	CORRECTED RESULT	DET LIMIT	REG LI
D023	95-48-7	o-Cresol	BDL	84	BDL	40	2000
D024	108-39-4	m-Cresol*	BDL	82	BDL	40	2000
D025	106-44-5	p-Cresol*	*	*	*	40	2000
D027	106-46-7	1,4-Dichlorobenzene	BDL	44	BDL	40	75
D030	121-14-2	2,4-Dinitrotoluene	BDL	52	BDL	40	13
D032	118-74-1	Hexachlorobenzene	BDL	64	BDL	40	13
D033	87-68-3	Hexachlorobutadiene	BDL	44	BDL	40	50
D034	67-72-1	Hexachloroethane	BDL	40	BDL	40	300
D036	98-95-3	Nitrobenzene	BDL	62	BDL	40	200
D037	87-86-5	Pentachlorophenol	BDL	102	BDL	200	10000
D038	110-86-1	Pyridine	BDL	64	BDL	200	500
D041	95-95-4	2,4,5-Trichlorophenol	BDL	82	BDL	40	40000
D042	88-06-2	2,4,6-Trichlorophenol	BDL	88	BDL	40	200

NOTES AND DEFINITIONS FOR THIS REPORT
DET LIMIT = DETECTION LIMIT
BDL = BELOW DETECTION LIMIT
* = UNRESOLVEABLE COMPOUNDS

Attachment 3 Page 5

SAMPLE ID E92-0318 FRACTION 01A TEST CODE TC_VOQ NAME TCLP Volatile Compounds
Date & Time Collected 02/13/92 Category LIQ_SLUDG

ANALYST: JPM FILE #: 2AS23665 TCLP EXTRACTION DATE: 02/25/92
INSTRMT: FINN2 INJECTED: 03/09/92 FACTOR: 10 UNITS: ug/L VERIFIED: RJW

EPA HW#	CAS#	COMPOUND NAME	SAMPLE RESULT	SPIKE REC.(%)	CORRECTED RESULT	DET LIMIT	REG LI
D018	71-43-2	Benzene	BDL	103	BDL	50	5(
D019	56-23-5	Carbon tetrachloride	BDL	104	BDL	50	5(
D021	108-90-7	Chlorobenzene	BDL	96	BDL	50	10000
D022	67-66-3	Chloroform	BDL	107	BDL	50	600
D028	107-06-2	1,2-Dichloroethane	BDL	109	BDL	50	50
D029	75-35-4	1,1-Dichloroethene	BDL	110	BDL	50	70
D035	78-93-3	Methyl ethyl ketone	BDL	70	BDL	1000	20000
D039	127-18-4	Tetrachloroethene	BDL	117	BDL	50	70
D040	79-01-6	Trichloroethene	BDL	100	BDL	50	50
D043	75-01-4	Vinyl chloride	BDL	94	BDL	100	20

NOTES AND DEFINITIONS FOR THIS REPORT
DET LIMIT = DETECTION LIMIT
BDL = BELOW DETECTION LIMIT
* = SEMI-QUANTITATIVE SCREEN ONLY

Attachment 3 Page 6

Received: 02/19/92
Results by Sample

SAMPLE ID E92-0319 FRACTION 02A TEST CODE TC_MEQ NAME TCLP Metals
Date & Time Collected 02/13/92 Category LIQ_SLUDG

TCLP EXTRACTION DATE: 02/25/92
UNITS: mg/L VERIFIED: CLC

EPA HW#	CAS#	COMPOUND NAME	SAMPLE RESULT	SPIKE REC. (%)	CORRECTED RESULT	REG LIMIT
D004	7440-38-2	Arsenic	<0.04	63	<0.06	5.0
D005	7440-39-3	Barium	<1	64	<2	100.0
D006	7440-43-9	Cadmium	<0.01	82	<0.01	1.0
D007	7440-47-3	Chromium	0.16	73	0.22	5.0
D008	7439-92-1	Lead	<0.2	74	<0.3	5.0
D009	7439-97-6	Mercury	<0.01	81	<0.01	0.2
D010	7782-49-2	Selenium	<0.04	79	<0.05	1.0
D011	7440-22-4	Silver	<0.04	62	<0.06	5.0

NOTES AND DEFINITIONS FOR THIS SAMPLE

Attachment 3 Page 7

AMPLE ID E92-0319 FRACTION 02A TEST CODE TC_SVQ NAME TCLP Semivolatiles
Date & Time Collected 02/13/92 Category LIQ_SLUDG

ANALYST: EDG EXTRACTED: 03/02/92 FILE #: 1AS18258 TCLP EXTRACTION DATE: 02/25/92
INSTRMT: FINN1 INJECTED: 03/03/92 FACTOR: 8 UNITS: ug/L VERIFIED: RJW

EPA HW#	CAS#	COMPOUND NAME	SAMPLE RESULT	SPIKE REC.(%)	CORRECTED RESULT	DET LIMIT	REG LIM
D023	95-48-7	o-Cresol	46	72	64	40	2000
D024	108-39-4	m-Cresol*	49	74	66	40	2000
D025	106-44-5	p-Cresol*	*	*	*	40	2000
D027	106-46-7	1,4-Dichlorobenzene	BDL	42	BDL	40	750
D030	121-14-2	2,4-Dinitrotoluene	BDL	56	BDL	40	13
D032	118-74-1	Hexachlorobenzene	BDL	58	BDL	40	13
D033	87-68-3	Hexachlorobutadiene	BDL	40	BDL	40	50
D034	67-72-1	Hexachloroethane	BDL	38	BDL	40	300
D036	98-95-3	Nitrobenzene	BDL	64	BDL	40	200
D037	87-86-5	Pentachlorophenol	BDL	92	BDL	200	10000
D038	110-86-1	Pyridine	BDL	62	BDL	200	500
D041	95-95-4	2,4,5-Trichlorophenol	BDL	78	BDL	40	40000
D042	88-06-2	2,4,6-Trichlorophenol	BDL	84	BDL	40	2000

NOTES AND DEFINITIONS FOR THIS REPORT
DET LIMIT = DETECTION LIMIT
BDL = BELOW DETECTION LIMIT
* = UNRESOLVEABLE COMPOUNDS

Attachment 3 Page 8

Received: 02/19/92

Results by Sample

SAMPLE ID E92-0319 FRACTION 02A TEST CODE TC_VOQ NAME TCLP Volatile Compound
Date & Time Collected 02/13/92 Category LIQ_SLUD

ANALYST: JPM FILE #: 2AS23617 TCLP EXTRACTION DATE: 02/25/92
INSTRMT: FINN2 INJECTED: 03/06/92 FACTOR: 1 UNITS: ug/L VERIFIED: RJW

EPA HW#	CAS#	COMPOUND NAME	SAMPLE RESULT	SPIKE REC. (%)	CORRECTED RESULT	DET LIMIT	REG L
D018	71-43-2	Benzene	BDL	103	BDL	5.0	5
D019	56-23-5	Carbon tetrachloride	BDL	111	BDL	5.0	5
D021	108-90-7	Chlorobenzene	BDL	108	BDL	5.0	1000
D022	67-66-3	Chloroform	BDL	108	BDL	5.0	60
D028	107-06-2	1,2-Dichloroethane	BDL	109	BDL	5.0	5
D029	75-35-4	1,1-Dichloroethene	BDL	120	BDL	5.0	7
D035	78-93-3	Methyl ethyl ketone	BDL	87	BDL	100	2000
D039	127-18-4	Tetrachloroethene	BDL	110	BDL	5.0	70
D040	79-01-6	Trichloroethene	BDL	106	BDL	5.0	50
D043	75-01-4	Vinyl chloride	BDL	98	BDL	10	20

NOTES AND DEFINITIONS FOR THIS REPORT
DET LIMIT = DETECTION LIMIT
BDL = BELOW DETECTION LIMIT
* = SEMI-QUANTITATIVE SCREEN ONLY

Attachment 3 Page 9

Test Methodology

TEST CODE **TC_EX** NAME **TCLP Extraction - Regular**

SW1311 (Bottle Extraction for Non-volatiles)

TEST CODE **TC_FIL** NAME **TCLP Filtration**

Method not available.

TEST CODE **TC_MEQ** NAME **TCLP Metals**

SW1311 (TCLP Bottle Extraction)
SW7061 Arsenic
SW6010 Barium
SW6010 Cadmium
SW6010 Chromium
SW6010 Lead
SW7470 Mercury
SW7741 Selenium
SW6010 Silver

TEST CODE **TC_SVQ** NAME **TCLP Semivolatiles**

Method not available.

TEST CODE **TC_VOQ** NAME **TCLP Volatile Compounds**

Method not available.

TEST CODE **TC_ZHE** NAME **TCLP Zero Headspace Extr.**

SW1311 (Zero Headspace Extraction)

Attachment 13 Pg

Ashland Chemical Co.

MALEIC ACID PROCESS WASTE NEUTRALIZED

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Material Identity
Product Name: MALEIC ACID PROCESS WASTE NEUTRALIZED
General or Generic ID: NEUTRALIZED PROCESS WASTE

Company
Ashland Chemical Co.
P.O. Box 2219
Columbus, OH 43216
614-790-3333

Emergency Telephone Number:
1-800-ASHLAND (1-800-274-5263)
24 hours everyday

Regulatory Information Number:
1-800-325-3751

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient(s)	CAS Number	% (by weight)
WATER	7732-18-5	82.0- 86.0
ACETIC ACID	64-19-7	1.0- 3.0
MALEIC ACID	110-16-7	1.0- 3.3
FUMARIC ACID	110-17-8	11.0- 15.0
ACRYLIC ACID	79-10-7	1.0- 1.1
UNKNOWN MATERIAL		1.0- 2.5

3. HAZARDS IDENTIFICATION

Potential Health Effects

Eye
Exposure can cause eye irritation. Symptoms may include stinging, tearing, redness, and swelling.

Skin
Exposure can cause skin irritation. Symptoms may include redness, burning, a skin damage.

Swallowing
Single dose oral toxicity is low. Swallowing small amounts during normal handling is not likely to cause harmful effects; swallowing large amounts ma be harmful.

Inhalation
Exposure to vapor or mist is possible.

Symptoms of Exposure
gastrointestinal irritation (nausea, vomiting, diarrhea), irritation (nose, throat, respiratory tract).

Target Organ Effects
No data

Continued on next page

Attachment 4 Page 1

Fire and Explosion Hazards
Never use welding or cutting torch on or near drum (even empty) because prod (even just residue) can ignite explosively.

Extinguishing Media
No data

Fire Fighting Instructions
Wear a self-contained breathing apparatus with a full facepiece operated in positive pressure demand mode with appropriate turn-out gear and chemical resistant personal protective equipment. Refer to the personal protective equipment section of this MSDS.

NFPA Rating
Not determined

6. ACCIDENTAL RELEASE MEASURES

Small Spill
Absorb liquid on vermiculite, floor absorbent or other absorbent material.

Large Spill
Prevent run-off to sewers, streams or other bodies of water. If run-off occur notify proper authorities as required, that a spill has occurred. Persons no wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source, dike area of spill to prevent spreading, pump liquid to salvage tank. Remaining liquid may be taken up on sand, clay, earth, floor absorbent, or other absorbent material and shoveled into containers.

7. HANDLING AND STORAGE

Handling
Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye Protection
Chemical splash goggles in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses. Consult your safety representative.

Skin Protection
Wear resistant gloves such as: neoprene, To prevent repeated or prolonged ski contact, wear impervious clothing and boots..

Respiratory Protections
If workplace exposure limit(s) of product or any component is exceeded (see exposure guidelines), a NIOSH/MSHA approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit othe NIOSH/MSHA respirators (negative pressure type) under specified conditions (se your industrial hygienist). Engineering or administrative controls should be implemented to reduce exposure.

Continued on next page

MALEIC ACID PROCESS WASTE NEUTRALIZED

State
LIQUID

Physical Form
No data

Color
No data

Odor
No data

pH
2.5 - 5.0

10. STABILITY AND REACTIVITY

Hazardous Polymerization
Product will not undergo hazardous polymerization.

Hazardous Decomposition
May form: carbon dioxide and carbon monoxide, various hydrocarbons.

Chemical Stability
Stable.

Incompatibility
Avoid contact with: strong oxidizing agents.

11. TOXICOLOGICAL INFORMATION

No data

12. ECOLOGICAL INFORMATION

No data

13. DISPOSAL CONSIDERATION

Waste Management Information
Dispose of in accordance with all applicable local, state and federal regulations.

14. TRANSPORT INFORMATION

DOT Information - 49 CFR 172.101
DOT Description:
No data

Continued on next page

Training Delivered By Employee

Employee ID: 030095
Employee Name: Foxwell, Percy L.A.

Course	Title	Completed	Grade	Hours	Cost	Instructor
HS12CR	Material Safety Data Sheets	04/08/96	X	0.0	0.00	SS
NEWEMP0	Haz. Com and Basic Safety	04/09/96	X	0.0	0.00	066322
ER03CRIO	Hazwoper Orientation and R	04/09/96	X	1.0	0.00	066322
HS14CR	Hazardous Materials at Neal	04/09/96	X	1.0	0.00	066322
HS04CK	Haz Com Compliance Kit	04/09/96	96	0.0	0.00	066322
ES01CK	Resource Conservation	04/09/96	100	2.0	0.00	066322
NEWEMP0	Quality Management System	04/09/96	X	0.0	0.00	066322
ER02CR	Emergency Action Plan	04/09/96	X	2.0	0.00	066322
HS15CK	Injury and Illness Response	05/07/96	100	0.5	0.00	066322
ES04CK	Surface Transportation of Ha	05/07/96	100	2.0	0.00	066322
SA06CK	Back and Muscle Strain Prev	05/07/96	100	1.0	0.00	066322
ES03CK	Toxic Substance Control Act	05/07/96	100	2.0	0.00	066322
AUDIT02	Internal Auditing Refresher T	05/14/96	X	2.0	0.00	ASHLAND
SA24AV	Slipping, Tripping, and Fallin	06/01/96	100	0.5	0.00	SS
ISO9000	ISO 9000 Documentation	06/12/96	X	24.0	0.00	VENDOR
NEWEMP0	Simply The Best Overview	06/24/96	X	1.0	0.00	SS
PSMOV	Process Safety Management	06/24/96	X	0.5	0.00	SS
ER05CK	Fire and Explosion Preventio	06/24/96	100	1.0	0.00	SS
ER02CR	Emergency Action Plan	07/08/96	X	2.0	0.00	SS
WORK059	Hazardous Materials Transp	07/12/96	X	0.0	0.00	VENDOR
ES03CK	Toxic Substance Control Act	08/09/96	100	2.0	0.00	SS
ER04CR	Fire Training - Field Exercise	08/14/96	X	2.0	0.00	VENDOR
WORK029	Purchasing/Logistics Semina	08/23/96	X	16.0	0.00	ASHLAND
ISOPQC	Plant Quality Coordinator (P	09/01/96	X	0.0	0.00	SS
WORK037	EHS RCRS & DOT Haz. Matl	11/12/96	X	8.0	0.00	ASHLAND
WORK020	Responsible Driving	11/21/96	100	3.0	0.00	066322
HS18CK	OSHA Recordkeeping - Kit 0	12/31/96	100	1.0	0.00	SS
WORK046	Essentials in Management	01/30/97	X	32.0	0.00	ASHLAND
ES01CK	Resource Conservation	02/06/97	100	2.0	0.00	SS
WORK019	Smith Driving System Instruc	03/06/97	100	24.0	0.00	VENDOR
WORK023	Simply The Best (Week-Long	04/25/97	X	40.0	0.00	ASHLAND
HS16CR	Substance Abuse Awarenes	04/29/97	X	2.0	0.00	ASHLAND
HS09CR	Haz. Com. Manual Review	05/13/97	X	2.0	0.00	SS
BAPP05C	STORM Presentation/Buy-In	05/14/97	X	1.0	0.00	066320
AUDIT04	ISO Auditor Training	05/23/97	X	16.0	0.00	VENDOR
ER05CK	Fire and Explosion Preventio	06/25/97	100	1.0	0.00	030095
ER04CR	Fire Training - Field Exercise	07/02/97	X	2.0	0.00	VENDOR
Training Record Count: 37			**99**	**196.50**	**$0.00**	

GRAND TOTAL Training Records: 37
OVERALL Numeric Grade Average: 99
GRAND TOTAL Training Hours Delivered: 196.50
GRAND TOTAL Training Costs: $0.00

Attachment 6 Page 1

Training Delivered By Employee

Ashland Chemical
Dataset:TRIM

Training Delivered by Employee QUERY

Employee ID:
Last Name: FOXWELL
First Name: PERCY
Middle Name:
Current Shift:
Course:
Title:
Completed Date(Min):
Completed Date(Max):
Hours(Min): 0.0
Hours(Max):
Cost(Min): 0.00
Cost(Max):
Numeric Grades (0-100): YES
Numeric Grades (0.0-4.0): YES
Letter Grades (A-F): YES
Letter Grades (P/F): YES
Letter Grades (Any): YES
Incomplete Grades : YES
Instructor ID:

Attachment 6 Page 2

Training Delivered By Course

Course: ES15CR
Course Title: Loading Log Books Ol 600

Employee ID	Employee Name	Completed	Grade	Hours	Cost	Instructor
066315	Blevins, Carroll L.	04/24/97	X	1.0	0.00	066302
→ 049849	Stephenson, Joe E.	04/24/97	X	1.0	0.00	066302
090070	Riley, Larry H.	04/24/97	X	1.0	0.00	066302
066302	Phillips, Carl E.	04/24/97	X	1.0	0.00	066302
049903	Wheeler, Roger	04/24/97	X	1.0	0.00	066302
066374	Napier, Tim P.	04/25/97	X	1.0	0.00	094483
066335	Tooley, Ronald L.	04/25/97	X	1.0	0.00	066335
066320	Vest, Thomas D.	04/25/97	X	1.0	0.00	066320
032006	Hensley, Sherry L.	04/25/97	X	1.0	0.00	094483
066313	Earl, Glenn E.	04/26/97	X	1.0	0.00	066313
036264	Chesser, Dale D.	04/26/97	X	1.0	0.00	066323
083752	Stacy, Tommy G.	04/26/97	X	1.0	0.00	094483
066312	Lowery, Charles W.	04/26/97	X	1.0	0.00	094483
020104	Skaggs, Virgil L.	04/26/97	X	1.0	0.00	066313
093801	Moore, Wayne E.	04/26/97	X	1.0	0.00	066323
302610	Conley, John Michael	04/26/97	X	1.0	0.00	066323
066308	Nunnally, David R.	04/26/97	X	1.0	0.00	066323
→ 052337	Shannon, William P.	04/26/97	X	1.0	0.00	066313
066323	Forbes, Glen F.	04/29/97	X	1.0	0.00	066323
094483	Duncan, Carlis R.	04/30/97	X	1.0	0.00	094483
066310	Clark, Robert V.	04/30/97	X	1.0	0.00	066313
045601	Mckee, Steven L.	04/30/97	X	1.0	0.00	066313
Training Record Count: 22			**0**	**22.00**	**$0.00**	

GRAND TOTAL Training Records: 22
OVERALL Numeric Grade Average: 0
GRAND TOTAL Training Hours Delivered: 22.00
GRAND TOTAL Training Costs: $0.00

Attachment 7